STATEMENT OF
BENJAMIN H. GRUMBLES
DEPUTY ASSISTANT ADMINISTRATOR FOR WATER
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT
UNITED STATES HOUSE OF REPRESENTATIVES

October 10, 2002

Introduction

Good morning, Mr. Chairman and Members of the Subcommittee. I am Ben Grumbles, Deputy Assistant Administrator for Water at the U.S. Environmental Protection Agency (EPA). I appreciate this opportunity to provide the Administration's views on mosquito control issues as they relate to the Clean Water Act ("CWA"). Accompanying me is Anne E. Lindsay, of the Office of Prevention, Pesticides, and Toxic Substances, to assist with pesticide specific issues.

Mosquito-borne Diseases

Mosquito-borne diseases affect millions of people worldwide each year. The spread of the West Nile Virus, and recent U.S. cases of malaria, have brought increased attention to controlling the mosquito population. The West Nile Virus has already been detected in 40 states and the District of Columbia. As of September 30, 2002, 2,405 confirmed human cases of West Nile Virus, and 117 deaths have been reported in the U.S. since it was first detected here in 1999. There is a growing concern among the public regarding efforts to control the mosquito population and to educate individuals, families and communities on ways to protect against the spread of mosquito-borne disease. Many states have set up information centers and web pages to provide information to the public on

preventing mosquito breeding and on better protecting citizens from being bitten by mosquitos. The EPA's Office of Pesticide Programs also provides information on their website on mosquito control issues.

Mosquitos can breed anywhere there is standing water. The life cycle of a mosquito can range from four days to a month depending on the species. There are a vast number of sources of standing water that can be sufficient to provide breeding grounds for mosquitos. Any standing water (either natural or man-made) has the potential to promote mosquito growth if certain conditions exist. Mosquitos can breed in natural water bodies such as wetlands, rivers, and lakes; however these systems are usually in ecological balance and natural mosquito predators such as mosquito fish and dragon flies help to control mosquito populations. While healthy water bodies can provide habitat for mosquitoes, some types such as wetlands also provide crucial functions such as water storage for flood control and filtration for improved water quality.

In urban and suburban areas, human activities often result in the creation of a multitude of potential mosquito breeding areas. Small receptacles such as beverage cans, bottle caps, used tires or depressions in the ground can serve as potential mosquito breeding sites. Man-made ponds, storm water control ponds, ornamental fish ponds and other structures also are potential mosquito breeding habitat. In residential areas, homeowners often contribute to mosquito problems by letting water collect and stand in bird feeders, roof gutters, buckets, and other containers such as kiddie pools. The first line of defense is to change, through natural or man-made intervention, the conditions in a situation conducive to mosquito breeding.

Besides eliminating breeding grounds, many local mosquito control departments find it necessary to also rely on pesticides to control the mosquito populations. EPA Regional Offices have assisted States where necessary with oversight of mosquito control pesticide applications to ensure that activities are performed according to label directions. A network of contacts with state and local health officials has been developed in every Region to maximize efficient communication and cooperation.

The two most common forms of pesticides for mosquito control are larvicides and adulticides. Larvicides are applied to breeding habitats to kill mosquito larvae before they emerge as adults. Larviciding can reduce or eliminate the need for adulticide applications. Adulticides are applied by truck-mounted or aircraft-mounted sprayers which dispense very fine (called "ultra-low volume") aerosol droplets that stay airborne and kill mosquitoes on contact. Adulticide use is not seen as a long-term solution to mosquito problems. In an integrated mosquito management program, ultra-low volume adulticide applications are used when source reduction and larvicides are inadequate or not feasible, or where surveillance data show it is necessary to reduce adult mosquito density for public health or severe nuisance reduction purposes. Adulticide is a supplement to other control practices and is used when needed.

The EPA has an extensive and rigorous scientific and regulatory program to evaluate the safety of all pesticides to ensure they meet tough federal health and environmental standards. Indeed, in connection with pesticide reregistration activities, EPA is currently evaluating some of the pesticides used in the mosquito control programs to determine if any changes in their use are necessary to protect the public health and the environment.

Storm Water Control Ponds

Among the many natural and man-made sites with standing water, storm water retention ponds have received attention regarding their potential as breeding grounds for mosquitoes. Storm water retention ponds (both wet and dry) represent one important class of controls that are used to address storm water runoff. Nationally, tens of thousands of these ponds exist, owned and operated primarily by local governments. For example, the City of Chesapeake, Virginia operates and maintains 140 ponds in its community of 200,000 people; Portland, Oregon operates and maintains 365.

Storm water retention ponds include both wet ponds that contain a minimum water level at all times and dry ponds that are designed to be dry except during and shortly after precipitation events. These ponds are beneficial in that they provide a high level of flood control and storm water treatment, have relatively low maintenance requirements, are practical for areas with high water tables or poorly percolating soils, and are viewed by many as having aesthetic value as "lake front" property.

The Clean Water Act establishes national goals to protect and maintain the chemical, physical and biological integrity of the Nation's waters. Section 402 directs EPA to develop a national Storm Water Program. EPA's Clean Water Act permitting regulations for storm water are designed to control runoff from municipal, industrial, and construction sources, however, these regulations do not require the use of particular technologies such as storm water retention ponds. Responsibility resides with communities to take appropriate measures to protect water quality, and to ensure that the methods they use are effective and any structural controls they use are operating properly. Permittees under the Clean Water Act storm water regulations must develop a program to regulate storm water, but they have flexibility as to specific methods employed. EPA's program promotes the use of appropriate

location-specific controls as selected, designed, operated, and maintained by the permittee, be it a municipality, an industrial plant operator, or a construction site developer. These site-specific controls are integrated into a storm water management program or storm water pollution prevention plan developed by the municipality or plant operator. While EPA does not mandate the use of ponds, some counties and municipalities have developed local ordinances as part of their storm water management program that require storm water treatment ponds for certain types of developments within their jurisdiction.

EPA, States, and municipalities have developed numerous guidance manuals on proper design, inspection, operation, and maintenance of these ponds. Proper design allows for the capture and controlled discharge of runoff, although many of these ponds are designed to permanently hold water. Properly designed, operated, and maintained ponds do not contribute to significant increases in mosquito populations. Guidance for wet pond design often suggests a minimum pool depth and establishment of predacious native species in the area such as dragonflies and mosquito fish to help control insect populations. As an example, Montgomery County, Maryland, which has a storm water permit under the Clean Water Act, has hundreds of ponds in the County and according to current information on the Montgomery County Department of Environmental Protection website, they did not find any problems with mosquitoes at the sites visited by trained staff ecologists. Pesticide application is typically viewed as a last resort to control insects on these basins.

Improperly designed and maintained ponds may unnecessarily contribute to increased mosquito populations. For example, dry ponds should be designed to drain completely within 72 hours of a

storm event, but a poorly designed dry pond may allow water to pool, while an unmaintained pond may not drain completely, thus allowing water to stagnate.

Ponds are by no means the only control practice available for storm water runoff. Alternative approaches, including non-structural techniques, are currently being used all across the country, successfully minimizing or eliminating the need for storm water ponds or significantly reducing the size requirements. Non-structural practices such as rain gardens, bioinfiltration, infiltration, and vegetative swales are being used successfully to reduce the need for ponds. Similarly, efforts to reduce the amount of impervious surface in communities can reduce the need for retention ponds. Narrower streets, sidewalk-less communities, and elimination of cul-de-sacs are just a few of the ways that communities are now reducing the need for storm water controls by reducing the amount of impervious surfaces. That is not to imply that storm water retention ponds can be eliminated easily, nor should be. Retention ponds use less space than many other types of storm water controls and are often found to be the best way to control runoff, especially to control flooding.

As a result of the recent West Nile Virus outbreak, EPA is paying more attention to mosquito control and will continue to promote proper design, operation, and maintenance of storm water ponds and routine inspection of those ponds as a way to ensure adequate control. EPA intends to work closely with other Federal agencies, such as the Centers for Disease Control and Prevention, and with local governmental agencies that develop and implement storm water programs to better understand what, if any, connections exist between storm water retention facilities and mosquito problems. Further, EPA will work cooperatively with State and local governments and organizations, such as the

National Association of Flood and Stormwater Management Agencies, to develop strategies and guidance to maximize storm water control while also minimizing the risk of mosquito-borne diseases.

Closing

In addition, EPA recognizes that questions have arisen recently about the appropriate role of the Clean Water Act in addressing application of pesticides to water, including for mosquito control. EPA is evaluating ways to ensure that Federal Insecticide, Fungicide and Rodenticide Act ("FIFRA") and Clean Water Act requirements continue to achieve important environmental goals while advancing the protection of public health, such as the control of mosquito-borne disease, and reducing potential areas of unnecessary regulatory confusion or duplication. Senior managers within the Office of Water and Office of Pesticide Programs are leading this important effort.

In closing, Mr. Chairman, I would like to thank you and your colleagues for inviting EPA to participate in this hearing. I would be happy to answer any questions that you may have.